NORDMAN COUNTRY STORE (PWS# 1090088)
SOURCE WATER ASSESSMENT REPORT

December 3, 2002

State of Idaho
Department of Environmental Quality

SOURCE WATER ASSESSMENT FOR THE NORDMAN COUNTRY STORE

Under the Federal Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the Act. The Idaho Department of Environmental Quality is completing these assessments for all Idaho public drinking water systems. The assessment for your drinking water source is based on well construction characteristics; site specific sensitivity factors associated with the aquifer the water is drawn from; a land use inventory inside the well recharge zone; and water quality history. For non-community transient water systems like the Nordman Store, recharge zones were generally delineated as a 1000-foot fixed radius around the wells.

This report, *Source Water Assessment for the Nordman Country Store* describes factors used to assess the well's susceptibility to contamination. The analysis relies on information from the well log; an inventory of land use, well site characteristics and potential contaminant sites identified through a Geographic Information System database search; and information from the public water system file. The ground water susceptibility analysis worksheet for the Nordman Country Store is attached near the end of this report.

Taken into account with local knowledge and concerns, this assessment should be used as a planning tool to develop and implement appropriate protection measures for this system. **The results should <u>not</u> be used as an absolute measure of risk and are not intended to undermine the confidence in your water system.**

<u>Well Construction.</u>

The Nordman Country Store well provides drinking water to a store, bar, laundromat, and 8 RV spaces in the rural town of Nordman in northern Bonner County, Idaho. The well was reportedly drilled in 1948 to a depth of 50 feet. Due to the age of this water well, no drill log was available at the Idaho Department of Water Resources.

A 6-inch steel casing extends 20 inches above current ground level. This casing was extended above a former well pit where the well casing was originally open ended to the elements. A water sample that tested positive for total coliform bacteria in July 1989 led to a sanitary survey. The 1989 sanitary survey noted deficiencies and, in order to remedy the 'disapproval' of the water system, the casing was extended, and a properly vented watertight well cap was added to bring this well into compliance. The well pit was then filled in with coarse sand with gravel.

The 1997 sanitary survey found no real problems, but suggested installation of a flow meter. The water for the Nordman Store is not treated.

Well Site Characteristics.

Soils in the well recharge zone are generally poorly drained to moderately well drained, providing some protection against migration of contaminants toward the well. The well site is located in an area of geologically recent Quaternary aged glacial, fluvial, and alluvial deposits located on the west side of Priest Lake. Since a well log was not found for this water well, specifics about exact rock and soil type, static water level, and water bearing strata are also not available. The well appears to be located outside of the 100-year flood plain.

Potential Contaminant Inventory.

There are two potential contaminant sources located near the Nordman Store well. One is Highway 57 where the transport of various materials could create a chance spill of contaminating chemicals, or microbial material.
The other potential contaminant source in the 1000-foot radius delineated around the well is the septic system for the store and RV park. The 1989 sanitary survey noted that the water well was within 100 feet of the nearest septic tank, and drainfield, and also 50 feet from a nearby sewer line. The septic system has since been upgraded and approved. No other potential contaminant sources are documented inside the recharge zone.

Water Quality History.

The Nordman Country Store samples its water quarterly for coliform bacteria, and yearly for nitrates. No positive bacterial tests have occurred in the last ten years. No nitrates have been detected in the period from 1998 through the present.
No volatile organic chemicals or synthetic organic chemicals were detected when the well was tested in 1998. None of the inorganic chemicals detected during comprehensive baseline testing in 1998 exceeded the Maximum Contaminant Level.

Susceptibility to Contamination.

The Nordman Country Store well is at moderate risk relative to all classes of regulated contaminants. The susceptibility analysis worksheet for your well on page 6 this report shows how your well was scored. Formulas used to compute the final susceptibility scores are at the bottom of the worksheet.

Source Water Protection.

This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a water source receives, protection is always important. Whether the water source is currently located in a wilderness area, or an area with numerous industrial and/or agricultural land uses, the way to ensure good water quality in the future is to act now to protect available water supply resources.

The Nordman Country Store water system was in good condition and in compliance with Idaho Rules for Public Water Systems when it was last inspected in August 1997. The survey report recommended installation of a flow meter on the discharge line from the well.

Water protection ideas can be found on the Internet, and on the Idaho DEQ website. A voluntary plan that every system should employ is development of an emergency response plan. There is a simple, fill-in-the-blanks form available on the DEQ website (www.deq.state.id.us/water/water1.htm) to guide systems through the emergency planning process.

The Nordman Store should also investigate ground water protection programs like Home*A*Syst. These programs are designed to help well owners assess everyday activities for their potential impact on drinking water quality. Topics include septic tank management, petroleum product storage, handling and storing lawn and household chemicals and similar activities. Due to the time involved with the movement of ground water, drinking water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term.

Assistance.

Public water suppliers and users may call the following IDEQ offices with questions about this assessment and to request help with drinking water protection planning.

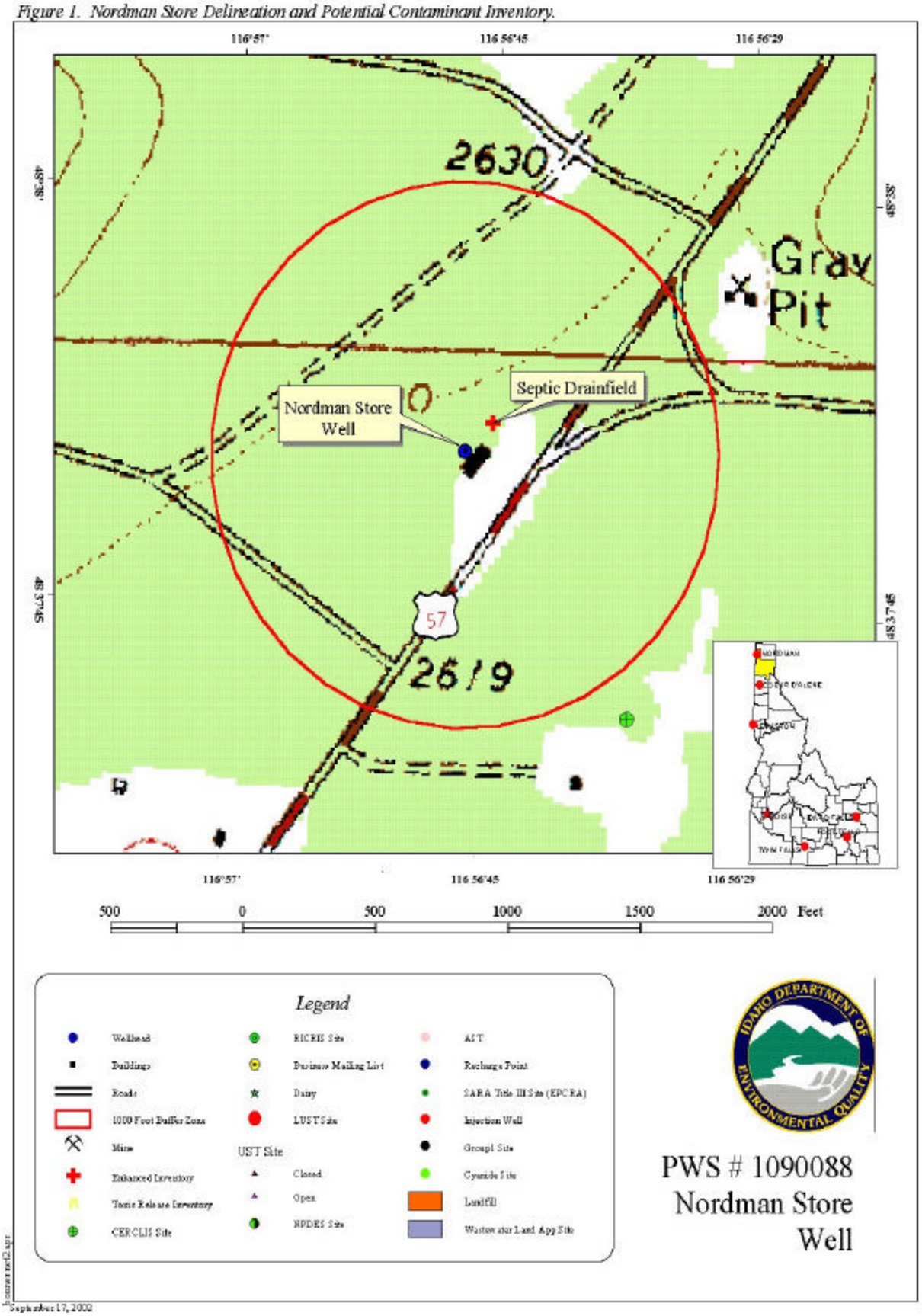
Coeur d'Alene Regional DEQ Office	(208) 769-1422
State IDEQ Office	(208) 373-0502

For assistance in developing source water protection strategies please contact Tony Davis at the Coeur d'Alene Regional DEQ office at 208 769-1422.

DEQ website:

http://www.deq.state.id.us

Figure 1. Nordman Store Delineation and Potential Contaminant Inventory.



Ground Water Susceptibility

Public Water System Name : **NORDMAN COUNTRY STORE** Well **WELL #1**

Public Water System Number : **1090088** 9/20/2002

1. System Construction		SCORE			
Drill Date	1948				
Driller Log Available	NO				
Sanitary Survey (if yes, indicate date of last survey)	YES	1997			
Well meets IDWR construction standards	NO	1			
Wellhead and surface seal maintained	YES	0			
Casing and annular seal extend to low permeability unit	NO	2			
Highest production 100 feet below static water level	NO	1			
Well located outside the 100 year flood plain	YES	0			
Total System Construction Score		**4**			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	YES	0			
Vadose zone composed of gravel, fractured rock or unknown	YES	1			
Depth to first water > 300 feet	NO	1			
Aquitard present with > 50 feet cumulative thickness	NO	2			
Total Hydrologic Score		**4**			
		IOC	VOC	SOC	Microbial
3. Potential Contaminant / Land Use -		Score	Score	Score	Score
Land Use	RECREATIONAL/COMMERCIAL	1	1	1	1
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Sanitary Setback	NO	NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score		**1**	**1**	**1**	**1**
Potential Contaminant / Land Use - 1000-FOOT RADIUS					
Contaminant sources present (Number of Sources)	YES SEPTIC, HIGHWAY	2	1	1	2
(Score = # Sources X 2) 8 Points Maximum		4	2	2	4
Sources of Class II or III leacheable contaminants or Microbials	YES	2	1	1	
4 Points Maximum		2	1	1	
1000-foot radius contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use 1000-foot radius	Less Than 25% Agricultural Land	0	0	0	0
Total Potential Contaminant Source / Land Use Score - 1000-foot radius		**6**	**3**	**3**	**4**
Cumulative Potential Contaminant / Land Use Score		**7**	**4**	**4**	**5**
4. Final Susceptibility Source Score		**9**	**8**	**8**	**9**
5. Final Well Ranking		MOD	MOD	MOD	MOD

The final scores for the susceptibility analysis were determined using the following formulas:

1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.27)

2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.35)

Final Susceptibility Ranking:

0 - 5 Low Susceptibility
6 - 12 Moderate Susceptibility
> 13 High Susceptibility

POTENTIAL CONTAMINANT INVENTORY
LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as ? Superfund? is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.)

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

NPDES (National Pollutant Discharge Elimination System) – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.